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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,962	08/04/2003	Kurt Langen	4301-1016-2	4464

466 7590 04/18/2005

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EXAMINER

PERRIN, JOSEPH L

ART UNIT

PAPER NUMBER

1746

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/632,962

Applicant(s)

LANGEN, KURT

Examiner

Joseph L. Perrin, Ph.D.

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 18 January 2005 have been fully considered but they are not persuasive.
2. In response to applicant's arguments that DAVIS *et al.* does not disclose the claimed gas feed means, this is not persuasive because the nozzle(s) of DAVIS *et al.* reads on applicant's gas feed means, defined on page 3 (last paragraph) of applicant's specification which states "gas feed means can consist of one or more nozzles or an annular nozzle."
3. In response to applicant's argument that the instant invention is directed to a device "for wet etching" and the device of DAVIS *et al.* is for preventing excess coating material from getting splashed onto the bottom surface, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). In the instant case, the apparatus of DAVIS *et al.* is fully capable of performing wet etching, particularly in view of the wet etching disclosed in column 1 of DAVIS *et al.*
4. Regarding applicant's arguments that DAVIS *et al.* does not disclose creating "a capillary force...", this is not persuasive because natural forces (capillary force)

resultant from the intended use of the apparatus (gap with) are intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). In the instant case, DAVIS *et al.* teaches the chuck being adjustably raised and lowered (see, for instance, col. 6, lines 13-19) thereby disclosing an adjustable gap width which reads on applicant's gap width which is fully capable of creating "capillary forces".

5. Regarding newly introduced claims 10-12, since these claims have not yet been treated on the merits any arguments directed to the claims will be addressed in any rejection(s) over the claims. Re claims 11-12, applicant's statement that "[s]imilar language was allowable in the parent application S.N. 10/164,424" is noted. However, the parent application is directed to process claims whereas the instant application is directed to apparatus claims, which are comparably afforded different patentable weight with regard to process steps versus intended use.

6. In response to applicant's arguments that WAGNER *et al.* does not disclose the claimed gas feed means, this is not persuasive for reasons of same given above for DAVIS *et al.* Re claim 7, applicant argues that WAGNER *et al.* does not disclose a gas guide. This is not persuasive because surface (5) reads on the claimed gas guide.

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7. Regarding newly introduced claims 10-12, since these claims have not yet been treated on the merits any arguments directed to the claims will be addressed in any rejection(s) over the claims. Re claims 11-12, applicant's statement that "[s]imilar language was allowable in the parent application S.N. 10/164,424" is noted. However, the parent application is directed to process claims whereas the instant application is directed to apparatus claims, which are comparably afforded different patentable weight with regard to process steps versus intended use.

#### ***Terminal Disclaimer***

8. The terminal disclaimer filed on 18 January 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,435,200 has been reviewed and is accepted. The terminal disclaimer has been recorded. Accordingly, the Double Patenting rejection is withdrawn.

#### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-5 & 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by DAVIS *et al.* (previously cited).

Re claims 1-2, DAVIS teaches a device having a means for holding a wafer (14), a nozzle (reads on applicant's "gas feed means") (30) facing the surface of the wafer facing the gas feed means, a guide means (52) and (66) (reads on applicant's "gas guide device") away from the wafer and solvent dispense means (see, for instance, Figure 3 of DAVIS and relative associated text), and in which the gas guide device (52) is ring-shaped. DAVIS further teaches the chuck being adjustably raised and lowered (see, for instance, col. 6, lines 13-19) thereby disclosing an adjustable gap width which reads on applicant's gap width.

Re claims 3-4, DAVIS further discloses a gas guide device formed by an annular groove (64) concentric to the periphery of the gas feed means, and having an inside diameter smaller than the wafer, and outer diameter larger than the wafer (see, for instance, Figures 3, 6 & 7 and relative associated text).

Re claim 5, DAVIS further discloses the part of the gas feed means located between the gas feed means and the gas guide device (26) is at a greater distance to the wafer than the gas guide device to the wafer, and the gas guide does not touch the wafer (see Figure 3 and relative associated text).

Re claim 9, DAVIS further discloses the guide means (52/66) having a radially inward projection which diverts fluid away from the wafer surface, for instance, through perforations (66) (see Figure 3 and relative associated text).

Re claims 10-12, it is noted that applicant's broad limitation of "holding means for holding the wafer-shaped article" reads on the process bowl (12) of

DAVIS comprising holder (14) and ring (40). Since ring (40) includes the limitations recited above (for instance, channel 66), and therefore, the gas guide details of claims 10-12 read as part of the "holding means", the position is taken that DAVIS anticipates applicant's structural limitations.

11. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by US 5,904,164 to Wagner *et al.* (hereinafter "Wagner").

Re claim 1, Wagner discloses a device for treating the peripheral edge of a wafer including a holding means (chuck 1), a gas feed means (not shown, but implicitly taught via disclosure of a Bernoulli chuck), and a gas guide (surface 5) (see, for instance, col. 1, lines 60-64 & Figures 2-3). Moreover re claim 1, the position is taken that since the gap of Wagner inherently discloses the claimed gap ranges, capillary action of the liquid into the gap would inherently also exist.

Re claims 2 & 3, the gas guide is construed as being "ring-shaped" in view of the circular holder 1 and the gas feed means in the center of the holder of the Bernoulli chuck & having an inner diameter smaller than the outside diameter of the wafer and an outside diameter larger than the wafer, respectively (see also Figures 1-2).

Re claim 5, Wagner further discloses a part (peg 7) of the holding means being between the gas feed means (center portion of the chuck) and the gas guide (peripheral portion of the chuck) (see Figures 1-2).

Re claim 6, Wagner as cited above discloses using a Bernoulli chuck.

Applicant also discloses (for instance on page 3, lines 8-13) using a Bernoulli chuck. Therefore, the position is taken that Wagner inherently discloses the claimed constant gap distances of 0.05-1.0 mm since such ranges are consistent with the operating distances of a Bernoulli chuck (as evidenced but not relied upon by U.S. Patent No. 6,095,582 to Siniaguine *et al.*, equilibrium (constant) distance H in the range of 0.1-1.0 mm, col. 3, line 61-62).

Re claims 7-8, Wagner further discloses the gas guide being parallel to the wafer (Figure 2) and surrounding the holding means and the gas feed means (see, Figures 1-2 and recitation of gas guide above).

### ***Conclusion***

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

13. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.




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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Perrin, Ph.D. whose telephone number is (571)272-1305. The examiner can normally be reached on M-F 7:00-4:30, except alternate Fridays.

15. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael E. Barr can be reached on (571)272-1414. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Joseph L. Perrin, Ph.D.  
Examiner  
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jl/p